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ABSTRACT

Sixty males received either one, 5, or 9 electric shocks of varying magnitude from a confederate during a 10-trial probability estimation task. Following initial trials, subject and confederate reversed roles, and subjects were permitted equal opportunity to counter-aggress against the confederate. One-half the subjects had been forewarned of role reversal, while the remainder had not. Results indicated that frequency of reciprocated shock (counter-aggression) was a direct and linear function of frequency of initial aggression delivered. Also, the low-frequency aggressor was over-punished and the high-frequency aggressor under-punished, demonstrating a curious but apparently reliable phenomenon consistent with the Berkowitz and Daniels' studies (1964). Post-impressions of the confederate indicated that frequent aggressors were perceived as less attractive and esteemed than infrequent aggressors, yet as more active and potent. (Author/TA)

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COUNTER-AGGRESSION AS A FUNCTION OF PHYSICAL AGGRESSION RECIPROCITY FOR HARM DONE[1]

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Gouldner's (1960) postulation of a positive reciprocity norm (help given for help received) was accompanied by a formalized negative reciprocity norm (p. 271). Substantial work has involved the positive reciprocity norm (Adams, 1965; Berkowitz & Daniels, 1964; Pruitt, 1968), but Taylor (1967) noted a lack of experimentation involving physical harm done and harm returned. Aggression has received considerable attention, but Buss's (1961) conclusion that "the antecedent event most likely to elicit aggression is attack (p. 38)" has not.

Taylor, et al. (Epstein & Taylor, 1967; Shortell, Epstein & Taylor, 1970; Taylor, 1967) show that individuals will calibrate amount of reciprocated shock; consistently, intensity of counter-aggression was proportional to that of initiated aggression. However, Taylor's investigations required that one of the participants must be shocked on each trial: non-aggressive responses were not available. Taylor's results may not represent a strong test of negative reciprocity behavior, but are consistent with studies showing that amount of harm or benefit is accurately reciprocated--however, reciprocation based on frequency of rewards of punishments has received little attention.

Studies by Berkowitz (e.g., Berkowitz & Geen, 1967; Berkowitz & Green, 1962) required a confederate and subject to write public relations essays, then rate each other's essay by delivering from one to seven shocks. Reciprocity data were ignored, but indicated negative reciprocity of shock

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frequency. Subjects returned two or three shocks for one, or five or six for seven received. The present investigation attempted to confirm and extend the Berkowitz finding that in counter-aggression trials individuals will calibrate the frequency of received harm, in accord with a negative reciprocity norm.

Unlike Taylor's studies, the present investigation employed a non-competitive paradigm with clearly avaliable non-aggressive response alternatives, testing frequency reciprocation as a stringent test of negative reciprocity behavior. Subjects first estimated the probability of receiving shock in a non-competitive setting. The confederate peer delivered shock with varying frequencies during estimation trials. Subject and confederate then reversed roles. Because it was unclear whether foreknowledge of opportunity for reciprocation would affect calibration of counter-aggressive behavior, half the subjects were pre-informed of the reciprocity condition. Thus, two levels of fore-knowledge and three levels of initial aggression frequency were employed.

A negative reciprocity norm hypothesis suggested that (1) the more frequently the subject was shocked, the more frequently he would reciprocate with shock; and (2) subjects' post-test impressions of confederate would vary with shock frequency. Specifically, with more initial shocks, the confederate would be perceived as more active and potent, but liked less.

Method

Subjects

Sixty white male undergraduates were assigned in order of appearance to each of the six cells of the design (10 Ss per cell). Seven male psychology graduate student confederates and three female experimenters served equally over cells.

Apparatus

One white light and a pair of finger electrodes were at one end of the partitioned experimental table, with a Model 1154M11 Foringer shock generator, a second white light and a timing apparatus at the other. The shock generator delivered a 15 milliamp shock for 1/2 second.

Procedure

Subject and confederate pairs were informed that the experiment involved electric shock. Subjects were allowed to refuse to participate. Participating pairs were told the experiment involved making probability estimates about receiving shocks. A sham drawing assigned the subject as "estimator" and the confederate as "operator." In foreknowledge conditions, they were told they would exchange roles during the experiment.

Attaching ring electrodes to the subject's fingertips, the experimenter explained that estimates of shock probability were to be made in whole percentage numbers from 0% to 100& during a 15-second period prior to a 3-second duration of white light illumination which demarcated a shock option period. Subjects then heard the confederate instructed in procedures for optional shock delivery during white light illumination periods, with emphasis that whether or not he used the shock option was totally his decision. After reminding subjects in the foreknowledge conditions of impending role reversal, the experimenter switched on the timer, beginning the first 15-second estimation period, then observed events from a control alley.

For the first ten trials, shocks were delivered on the fifth (10% group); on the 1st, 4th, 6th, 7th, and 10th (50% group); or on all but the fifth trial (90% group).[2] Following the tenth trial, the experimenter

re-entered the room and asked participants to switch positions and roles. Following instruction reviews, each group had ten reciprocity trials.

Subjects provided post-test measures of attraction and esteem[3] for confederate on a form of the Interpersonal Judgment Survey (IJS: Byrne, 1969) and Semantic Differential (Osgood, Suci, & Tannenbaum, 1957) impressions of "other" on subscales of Evaluation, Activity, and Potency. The experimenter debriefed subjects, dismissing them after assuring herself that they retained no residual anxiety or fears from the electric shock.

Results

A 3 x 2 ANOVA on frequency of shocks delivered by subjects when they served as "operator" produced a main effect of shock probability ($F = 33.02$, $df = 2/54$, $p < .001$). Duncan range tests indicated that subjects in the 90% condition ($\bar{X} = .530$) delivered shock more frequently than did subjects in the 50% condition ($\bar{X} = .425$, $p < .10$), who reciprocated more shocks than 10% subjects ($\bar{X} = .210$, $p < .001$). Neither foreknowledge nor the interaction term reached significance ($p > .10$).

Comparisons of proportional reciprocity behavior with proportional measures of confederate aggression indicated that subjects in the 10% group delivered more shocks than they had received ($z = 1.81$, $p < .07$), while subjects in the 90% group reciprocated less harm than received ($z = 6.09$, $p < .001$). Only in the 50% condition was reciprocity precisely calibrated ($z < 1$, $p > .10$).

Frequency of shock systematically affected post-impression measures. Frequency main effects were found on the IJS liking ($F = 8.11$, $df = 2/54$, $p < .01$) and esteem ($F = 4.74$, $df = 2/54$, $p < .001$) measures, and on

Semantic Differential dimensions of Potency ($F = 38.49$, $df = 2/54$, $p < .001$), Activity ($F = 5.04$, $df = 2/54$, $p < .01$), and Evaluation ($F = 38.49$, $df = 2/54$, $p < .001$). The linearly ordered means showed the confederate as less liked, approved, and respected, but as more active and potent the more frequently he administered shocks. However, although range tests showed all Evaluative and Potency dimension comparisons to be significant ($p < .05$), only 90% subjects differed significantly ($p < .05$) from other frequency groups on the IJS attraction measure. The 10% and 90% conditions differed significantly ($p < .05$) in esteem and Activity, but neither of these groups differed from the 50% condition. Post-test measures were unaffected by foreknowledge of role reversal.

Discussion

Although provocation and reciprocal punishment were not perfectly matched, the hypothesis that subjects will reciprocate physical harm on a frequency basis was strongly supported, thus cross-validating and extending the evidence from Berkowitz' studies. Also consistent with Berkowitz' findings, the low-frequency aggressor was over-punished and the high-frequency aggressor was under-punished, demonstrating a curious but apparently reliable phenomenon. No convincing post hoc hypothesis can be offered for these calibration errors, except perhaps that subjects may prefer non-extreme values, whether in making perceptual judgments, attitudinal commitments, or in reciprocation of physical harm.

Generalizations for the pervasiveness of the norm of negative reciprocity are extended by the major finding that the norm applies to frequency as well as magnitude of harm. Here, where aggression was unprovoked (i.e., noncontingent) and subjects did not anticipate a second

role reversal, it seems likely that counter-aggression was employed as revenge rather than as a counter-deterrent. These results suggest that a frequency notion of positive reciprocity should be tested and that both frequency and magnitude of rewards and punishments may be effective cues for individuals seeking guidelines for reciprocal behaviors.

Interpersonal impressions formed over the interaction may be a function of initial aggression, counter-aggression, or both. However, exactly the same pattern of interpersonal impressions were obtained from an allied study by Brown, Schlenker, and Tedeschi (1971) which employed the same experimental manipulations without role reversal opportunities. The combined results of these studies leads to rejection of a catharsis interpretation, which would predict some expiation of dislike and perhaps perceived potency of the harm-doer as a function of counter-aggression opportunities. Apparently, whether able to reciprocate or not, subjects perceive the frequent harm-doer as both potent and active, but unattractive and low in esteem. Both interpersonal impressions and counter-aggressive activities are calibrated to the frequency of harm perpetrated by the aggressor. The less often he harms subjects, the more they like, approve, and respect him, but the less active and potent he is perceived to be. While the exercise of noncontingent punitive power is consistent with a strong and active image, it is not conducive to friendly and cordial relations.

In conclusion, the evidence supports the biblical injunction of "an eye for an eye" and "a tooth for a tooth," with emphasis on the one-for-one exchange rate. Perhaps Herman Kahn's (1965) speculation that nuclear retaliation can be scaled on an "appropriate" city for city basis is not as incredible as it may seem.

Footnotes

1. The present investigation was supported in part by Grant Number ACDA-0331 to the second author from the U. S. Arms Control and Disarmament Agency (National Research Council), and by Grant No. GS 27059 from the National Science Foundation to the third author.

2. Although shocks were delivered on a frequency basis (i.e., one, five, or nine times per 10-trial sequence), these three conditions are herein referred to as shock probability levels, consistent with subject's probability estimation task.

3. The esteem measure represents a combination of the intelligence and respect ratings on the IJS. The measure has been validated by Tedeschi (1971).

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